

In the claims:

Cancel claims 1-24 and replace them with the following new claims 25 through 69.

25. Transparent substrate carrying a coating stack comprising at least one metallic coating layer comprising silver or a silver alloy, each metallic coating layer being in contact with two non-absorbent transparent dielectric coating layers, the coated substrate being adapted to withstand a bending or tempering type of heat treatment, characterized in that prior to such heat treatment, each of the dielectric coating layers comprises a sub-layer based on a partially but not totally oxidized combination of at least two metals.

26. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that one of the said two metals is Ni.

27. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that one of the said two metals is Cr.

28. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that the said combination of two metals is based on Ni and Cr.

29. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that at least one metallic coating layer of the said coating stack is in contact with at least an underlying sub-layer of an oxide of a metal selected from Ti, Ta, Nb and Sn.

30. Transparent substrate carrying a coating stack in accordance with claim 29, characterized in that at least the sub-layer based on a partially oxidized combination of two metals which is closest to the substrate is in contact with an underlying sub-layer of an oxide of titanium.

31. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that the dielectric coating layer positioned between the substrate and the first metallic coating layer comprises sub-layers of metal oxides or of oxides of combinations of metals.

Sub C1
~~32. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that at least one dielectric coating layer comprises a sub-layer based on at least one nitride.~~

not necessarily sub
33. Transparent substrate carrying a coating stack in accordance with claim 32, characterized in that the at least one nitride is a nitride of Si, Al, or a combination of these elements.

Sub C2
~~34. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that the at least one metallic coating layer is selected from silver, platinum, palladium and combinations of these elements.~~

35. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that the coating stack contains a single metallic coating layer.

36. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that the optical thickness of the dielectric coating layer closest to the substrate is between 50 and 90 nm, that of the other dielectric coating layer is between 70 and 110 nm, that of the sub-layers based on a combination of two metals is between 3 and 24 nm and the geometrical thickness of the metallic coating layer is between 8 and 15 nm.

37. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that after a tempering or bending type heat treatment the substrate has a haze of less than 0.3%.

38. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that after a tempering or bending type heat treatment the substrate has an emissivity of less than 0.08.

39. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that following a tempering or bending type heat treatment the luminous transmittance of the substrate under Illuminant A varies by less than 10% with respect to its value prior to the tempering or bending type heat treatment.

40. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that following a tempering or bending type heat treatment its color purity in reflection varies by less than 5% with respect to its value prior to the tempering or bending type heat treatment.

41. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that following a tempering or bending type heat treatment the dominant wavelength in reflection varies by less than 3 nm with respect to its value prior to the tempering or bending type heat treatment.

42. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that following a tempering or bending type heat treatment the luminous transmittance of the substrate under Illuminant A varies by less than 10%, its color purity in reflection varies by less than 5% and its dominant wavelength in reflection varies by less than 3 nm with respect to the values prior to the tempering or bending type heat treatment.

~~43. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that the coating stack contains two metallic coating layers separated by an intermediate dielectric coating layer.~~

44. Transparent substrate carrying a coating stack in accordance with claim 43, characterized in that the optical thickness of the dielectric coating layer closest to the substrate is between 50 and 80 nm, that of the dielectric coating layer spaced furthest from the substrate is between 40 and 70 nm, that of the intermediate dielectric coating layer is between 130 and 170 nm, that of the sub-layers based on a composition of two metals is between 3 and 24 nm and the geometrical thickness of the metallic coating layers is between 8 and 15 nm.

45. Transparent substrate carrying a coating stack in accordance with claim 25, characterized in that after a tempering or bending type of heat treatment the substrate has a haze of less than 0.5% and a TLA greater than 76%.

46. Multiple glazing characterized in that it comprises a coated substrate in accordance with claim 25.

47. Laminated glazing characterized in that it comprises a coated substrate in accordance with claim 25.

48. Vehicle windshield characterized in that it comprises a coated substrate in accordance with claim 25.

49. Method of manufacturing a transparent substrate carrying a coating stack in accordance with claim 25, characterized in that at least one metallic coating layer is sputter deposited in an oxidizing atmosphere.

50. Method in accordance with claim 49, characterized in that the said atmosphere comprises less than 10% oxygen.

51. Method in accordance with claim 49, characterized in that the said atmosphere comprises 3 to 7% oxygen.

52. Glass substrate carrying a coating stack comprising, in order from the glass substrate:

a non-absorbent transparent coating layer comprising a layer of a partially but not totally oxidized combination of at least two metals;

a metallic coating layer selected from the group consisting of silver and silver alloys;

a non-absorbent transparent coating layer comprising a layer of a partially but not totally oxidized combination of at least two metals.

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53. Glass substrate carrying a coating stack in accordance with claim 52, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals comprises Ni.

54. Glass substrate carrying a coating stack in accordance with claim 52, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals comprises Cr.

55. Glass substrate carrying a coating stack in accordance with claim 52, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals comprises Ni and Cr.

Sub
C4
~~56. Glass substrate carrying a coating stack in accordance with claim 52, in which at least one of the layers comprising a partially but not totally oxidized combination of at least two metals is a sub-layer of its non-absorbent transparent coating layer.~~

~~57
58. Glass substrate carrying a coating stack in accordance with claim 52, in which at least one of the layers comprising a partially but not totally oxidized combination of at least two metals is partially oxidized across its entire thickness.~~

58 59. A glass substrate having a haze of less than 0.5%, said glass substrate being formed in accordance with claim 52 and subjected to a heat treatment selected from bending and tempering.

59 60. A glass substrate having an emissivity of less than 0.08, said glass substrate being formed in accordance with claim 52 and subjected to a heat treatment selected from bending and tempering.

60 61. Glass substrate carrying a coating stack which comprises, in order from the glass substrate:

a non-absorbent transparent coating layer comprising a layer of an oxide of titanium and an overlying layer of a partially but not totally oxidized combination of Ni and Cr;

a metallic coating layer selected from the group consisting of silver and silver alloys;

a non-absorbent transparent coating layer comprising a layer of a partially but not totally oxidized combination of Ni and Cr and an overlying layer of a nitride selected from the group consisting of nitrides of silicon, nitrides of aluminum and mixed nitrides of silicon and aluminum.

61 62. Glass substrate carrying a coating stack comprising, in order from the glass substrate:

a non-absorbent transparent coating layer comprising a layer of a partially but not totally oxidized combination of at least two metals;

a metallic coating layer selected from the group consisting of silver and silver alloys;

a non-absorbent transparent coating layer comprising a layer of a partially but not totally oxidized combination of at least two metals;

a metallic coating layer selected from the group consisting of silver and silver alloys;

a non-absorbent transparent coating layer comprising a layer of a partially but not totally oxidized combination of at least two metals.

⁶¹62. ⁶²63. Glass substrate carrying a coating stack in accordance with claim ⁶¹62, in which at least one of the layers which comprises a partially oxidized combination of at least two metals comprises Ni.

⁶¹63. ⁶³64. Glass substrate carrying a coating stack in accordance with claim ⁶¹62, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals comprises Cr.

⁶¹64. ⁶⁴65. Glass substrate carrying a coating stack in accordance with claim ⁶¹62, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals comprises Ni and Cr.

⁶¹65. ⁶⁵66. Glass substrate carrying a coating stack in accordance with claim ⁶¹62, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals is a sub-layer of its non-absorbent transparent coating layer.

⁶¹66. ⁶⁶67. Glass substrate carrying a coating stack in accordance with claim ⁶¹62, in which at least one of the layers which comprises a partially but not totally oxidized combination of at least two metals is partially oxidized across its entire thickness.

⁶¹67. ⁶⁷68. Glass substrate having a haze of less than 0.5% comprising a glass substrate in accordance with claim ⁶¹62 which has been subjected to a heat treatment selected from bending and tempering.

68. Glass substrate having an emissivity of less than 0.08 comprising a glass substrate in accordance with claim ⁶¹62 which has been subjected to a heat treatment selected from bending and tempering.